Question 3: Summary Consideration: Prior to the issuance of Order 743a**,** the SDT reviewed all of the provided material and used this material and the examples supplied in its consideration of the revised definition of the Bulk Electric System (BES). The goal of the SDT is to provide a bright-line definition of BES which adheres to the guidelines and directives in Order 743. This bright-line definition contains certain inclusions and exclusions for specific equipment and configurations. The SDT believes that this definition now answers many of the questions raised by industry and encompasses most of the examples provided. However, no bright-line definition will be able to capture all of the concerns or situations. Accordingly, and consistent with Order 743, another aspect of this project is to establish an exception process with criteria based on reliability principles for the Interconnected BES that will be incorporated in NERC's Rules of Procedure (ROP) that will allow a process for the inclusion or exclusion of a particular BES Element from the definition. This ROP work effort will be done by a separate team but the DBESSDT will be in close coordination with that team.

Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Commenters:

John A. Gray, The Dow Chemical Company

281-966-2390
JAGray3@dow.com

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

   Comments: Dow has reviewed and generally supports the comments prepared by The Electricity Consumers Resource Council (ELCON).

Michael Moltane/John Zipp, ITC Holdings

Telephone: 248-946-3093

Email: mmoltane@itctransco.com

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: I would be motivated to apply for element exclusions and the process looks good. I don't see a reason for us to apply for any inclusions

Laura Lee, Duke Energy

Telephone: 704-382-3625

Email: Laura.Lee@duke-energy.com

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: There are three parts to the work that need to be accomplished to fulfill the intent of the Commission's Order; 1) revision of the definition of Bulk Electric System, 2) development of exemption criteria and 3) development of a process for applying the exemption criteria. The first two parts of the work should be accomplished using the standards development process. This work is technical in nature and therefore should be developed by technical experts in the industry. The Rules of Procedure change process should be reserved for the mechanics of administering the exemption process.

The Regions should administer the exemption process with NERC serving an oversight role to ensure consistency among the Regions. This would fit logically with the Regions' administration of other processes such as the registration process.

Each registered entity that identifies Transmission or Generation Elements or Facilities that should be included or excluded from the Bulk Electric System should submit an application to the Region, including the information sought in parts a, b and c of questions 1 and 2 in this document (i.e., identification of the Element or Facility, diagram, and technical justification). The Region should then review the request through a stakeholder technical committee using the criteria approved through the standards development process. NERC should periodically review all applications of the exemption process to ensure consistency in the Regions' application of the criteria.

Michelle Mizumori, Western Electricity Coordinating Council

Telephone: 801-819-7624

Email: mmizumori@wecc.biz

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: In addition to defining functional characteristics that can be used for an exemption process, the use of engineering studies that demonstrate the effect of an element on system performance must also be allowed, but must include clearly-defined and technically-justified assumptions, metrics, and thresholds. To the extent that there are physical differences between regions or interconnections, variations between those regions and interconnections must be allowed. However; all assumptions, metrics, and thresholds must be thoroughly vetted and approved by NERC as part of the NERC Exemption Process. Furthermore, it would be helpful if NERC could clarify the process that it will use to develop the Exemption Process and Criteria, including how the team will be populated, how coordination with the Drafting Team will be assured, and how the vetting process would occur. It is important that the team developing the exemption criteria includes technical experts from the stakeholder community.

Brandy A. Dunn, Western Area Power Administration

Telephone: 720-962-7431

Email: dunn@wapa.gov

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: The use of engineering system studies that demonstrate the impact of an Element on system performance must be allowed to demonstrate inclusion/exclusion to the BES. To the extent there are physical differences between Regions, variations between those Regions must be allowed. Also – the Exception Definition Task Force needs to be a stakeholder-populated/ -driven process.

The exemption process should be part and parcel of the definition. Exemption language furthermore must be explicit and unambiguous. The WECC Bulk Electric Definition Task Force (BESDTF) has expended considerable effort over the last two years exploring important issues pertaining to exempting elements from the BES including;

a. Lines of demarcation between BES and non-BES elements
b. Definition of 'radial'
c. High voltage distribution networks.
d. Impact assessment methodologies.

Alain Pageau, Hydro-Québec TransÉnergie

Telephone: 514 879-4100 #5414

Email: pageau.alain@hydro.qc.ca

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: For the Canadian entities, the inclusion or exclusion of equipment and facilities in the BES must be also approved by the Canadian regulators. (as answer 2c). We believe that it is very difficult to propose first a definition for the BES and only after an Exemption process. Both aspects influence each other and both should be carried out together.

Guy Zito, Northeast Power Coordinating Council

Telephone: 212-840-1070

Email: gzito@npcc.org

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments:

[1] **Seven Factor Test** – NPCC participating members believe that the BES Exclusion process should place substantial weight upon Factor 3 from the FERC Seven Factor test. Factor 3 states, "Power flows into local distribution systems, and rarely, if ever flows out."[1] We also believe that Factor 7 has been broadly interpreted by FERC, State Commissions and the Courts to **include** facilities serving a distribution function and operated at 100 kV and above. [2,3,4,5,6,7]

[2] **NPCC A-10 Methodology for Determine BPS Elements** – NPCC participating member believe the A-10 Criteria methodology that NPCC uses to determine its BPS elements can be further utilized to identify critical system components that may be operated below the 100 kV threshold. The Criteria may also be used be used in lieu of the use of "higher" thresholds that appear or are contemplated in some of the ERO standards such as FAC-003 cites 200kV and above, the TPL-001 currently under development may specify a 200 kV threshold for some "more stringent" planning criteria. These higher thresholds may lend themselves to the use of an "impact based" methodology that could be used to determine where more stringent requirements may need to be applied.

[3] **New York State Public Service Commission (NYSPSC)** - In Opinion No. 97-12, Case 97-E-0251, the NYPSC provided utilities under its jurisdiction explicit guidance for

[1] We view the term "rarely" as used in Factor 3 to be bounded on the upside by a reverse power flow rate of no more than 10% of all hours and a peak reverse power flow (MW) amount of no more than 50% of peak inflows.
[2] STATE OF IOWA DEPARTMENT OF COMMERCE UTILITIES BOARD, DOCKET NO. SPU-98-12, IN RE: MIDAMERICAN ENERGY COMPANY, ORDER RECOMMENDING DELINEATION OF TRANSMISSION AND LOCAL DISTRIBUTION FACILITIES, Issued April 30, 1999. See http://www.state.ia.us/iub/docs/orders/1999/0430_spu9812.pdf
[3] *Pacific Gas and Electric Company, et al*., 77 FERC ¶ 61,077 at 61,325 (1996).
[4] *Puget Sound Energy, Inc*., 110 FERC ¶ 61,229 at 61,856 (2005).
[5] Case No. U-l3862, August 26, 2003 meeting of the Michigan Public Service Commission in Lansing, Michigan.
[6] "With regard to the deference it would provide to recommendations by state regulatory authorities concerning where to draw the jurisdictional line between FERC jurisdictional transmission facilities and state-jurisdictional local distribution facilities, FERC provided the following guidelines:… (e) If the utility's classifications and/or cost allocations are supported by the state regulatory authorities and are consistent with the principles established in Order No. 888, FERC **will defer to such classifications** and/or cost allocations." FERC comments filing by *Central Illinois Light Company*, Docket EL03-39-000, filed Dec. 20, 2002.
[7] *Mansfield Municipal Electric Department v. New England Power Co*., 97 FERC ¶ 61,134 (2001). "…the Municipals' facilities have all of these [Seven Factor Test] indicators except the last one. The voltage of the lines is 115 kV, the same voltage as the transmission grid. As discussed supra, the voltage alone is not dispositive of the issue as to whether a line is distribution or transmission. We must also look at the function."

determining the point-of-demarcation between transmission facilities under FERC jurisdiction and distribution

facilities under NYSPSC jurisdiction.[8] Appendix C to this Order established three (3) measures that utilities were instructed to use in determining the classification of transmission and distribution assets.

[4] FERC non-jurisdictional entities such as the Canadian Provinces.

The exemption process should clearly address the process and requirements for FERC non-jurisdictional entities (such as the Canadian entities) with the exception of the interconnections between them and those entities under FERC jurisdiction, and/or those entities having a direct impact on those interconnections. See **APPENDIX C**

[8] STATE OF NEW YORK PUBLIC SERVICE COMMISSION, OPINION NO. 97-12 in CASE 97-E-0251 - *Proceeding on Motion of the Commission to Distinguish Bulk Electric Transmission System from Local Distribution Facilities*.

Jim Uhrin ReliabilityFirst Corporation

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Email: jim.uhrin@rfirst.org

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: ReliabilityFirst would like to see this as a simple and easy-to-follow definition. The exclusion process needs to be clear without room for discussion or interpretation.

- There must be a common framework developed, along with a single NERC-wide BES definition.
- The definition should serve as a common approach for the identification of BES Elements and Facilities that are subject to compliance.
- The definition and approach for the determination must be repeatable.
- The method must clearly identify the BES elements for use by the industry.
- In order to obtain consistency, the definition, application and criteria must be used across Regional Entity boundaries.
- The revised BES definition should be consistent with the Statement of Compliance Registry Criteria so as not to create a conflict between the two, and could possibly simply reference the Criteria for issues such as size of generating units (e.g., 20 MVA units and 75 MVA plants) included in the BES.
- The criteria for exemption should be included within the BES definition, and the exemption process should contain only the procedure for submitting and determination of such. The exemption process should not contain a third set of criteria (in addition to the BES definition itself and the Statement of Compliance Registry Criteria) in which to make a determination of facilities to be monitored for compliance to standards.
- With the revised BES definition containing specific requirements for inclusion in the BES, will the separate Statement of Compliance Registry Criteria even be needed?

Joe Petaski, Manitoba Hydro

Telephone: 204-487-5332
Email: jpetaski@hydro.mb.ca

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments:

a. A NERC definition of 'radial' is required to prevent misapplication of the BES definition and exemption process.

b. There should be no regional differences in the BES definition or in the BES definition exemption process.

c. There should be equal representation from the regions to draft this standard

d. There should be consistent wording to describe the process - exception or exemption.

John W. Delucca, Lee County Electric Cooperative

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Email: john.delucca@lcec.net

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: The exception process under draft in the FRCC region should serve as a strong basis that could be applied Continent-wide. Also while the exclusion process should be administered within the Region there needs to be an appeals process in place that progresses quickly. In addition, a Region should not be allowed to allege violations of reliability standards related to a system while in the appeals process. If the appeal is not upheld the entity should then be allowed time to bring the system into compliance. Also for consideration Bright-line" methodology seems to be the "easy button" solution, but this "one-size fits all' places the burden on entities to obtain exclusions. From an entity's viewpoint, move the "bright-line threshold" to non-radial facilities operating at or greater than 230 kV, and adopt an inclusion process and criteria for including facilities that are necessary to operate an interconnected electric transmission network.

Paul Cummings, City of Redding

Telephone: 530-245-7016

Email: pcummings@ci.redding.ca.us

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: The WECC Bulk Electric System Definition Task Force has done extensive work on this topic. Please consider their current work when drafting the BES definition and exception process.

Patrick Farrell, Southern California Edison Company

Telephone: 626-302-1321

Email: Patrick.Farrell@sce.com

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: In addition to defining functional characteristics that can be used for an exemption process, the use of engineering studies that demonstrate the effect of an element on system performance should be allowed, with clearly defined and technically justified assumptions, metrics, and thresholds. To the extent that there are physical differences between regions or interconnections, variations between those regions and interconnections should be allowed. However, all the assumption, metrics, and thresholds will need to be thoroughly vetted and approved by NERC as part of the NERC Exemption Process.

Dan Rochester, Independent Electricity System Operator

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Email: dan.rochester@ieso.ca

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: We have difficulties understanding the intent of this Comment Form and the content in Q1 and Q2, above, which appear to be templates for information to be included in an exclusion/inclusion request rather than asking for comments on each of the listed items.

1. Is the intent of this Comment Form to obtain:
    a. Recommendations of the criteria to be considered in developing deviations from the default criteria for classifying Elements and Facilities as part of the BES?
    b. Assessment of the templates proposed in Q1 and Q2?
2. The concept paper that is posted alongside the SAR and proposed definition is not referenced in this Comment Form. Is it the drafting team's intent to solicit comments on the concept paper?
3. In the concept paper, three exemption criteria are presented. We do not have any issue with the first and third criteria but are concerned that Criterion #2 is not a criterion. It states that:

    "Elements and Facilities identified through application of the exemption process, consistent with the criteria, where the exemption process deems that the Element or Facility should be excluded from the BES (with concurrence from the ERO)."

    This criterion appears to reference yet another set of criteria not already included in the set or the concept paper. In fact, this "referenced" set needs to be clearly stipulated to ensure that applicants are fully aware of the conditions under which an Element or Facility operated at 100 kV or above can be deemed not necessary to support bulk power system reliability and, conversely, the conditions for an Element or Facility operated at below 100 kV to be included. The "templates" presented in Q1 and Q2 of this Comment Form also do not convey the needed conditions.

    We believe it is the clear conditions for exclusion (Elements/Facilities of 100 kV and above) and inclusion (below 100 kV) that need to be developed and fully vetted. We urge the drafting team to proceed to developing these criteria expeditiously so as to support the assessment and approval of the revised definition of BES.
4. We strongly advocate that the exemption process allows for a registered entity to submit the results of an objective, impact-based assessment process in support of its application for exemption of facilities that would otherwise be classified as part of the BES. This

assessment process, when consistently applied in a non-arbitrary manner, would yield results that demonstrate concretely, that the facilities for which the exemption is being sought, do not impact the BES.

5. Finally, given that the exemption process will be used to included and exclude transmission facilities we suggest either of the following as a more appropriate name: "BES Classification Exception Process" or "BES Classification Review Process".

Lorissa Jones, Transmission Reliability Program Manager

Telephone: 360-418-8978

Email: ljjones@bpa.gov

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: In addition to defining functional characteristics that can be used for an exemption process, the use of engineering studies that demonstrate the effect of an element on system performance must also be allowed, with clearly defined and technically justified assumptions, metrics and thresholds. Furthermore, to the extent that there are physical differences between regions or interconnections, variations between those regions and interconnections must be allowed. However all assumptions, metrics and thresholds must be thoroughly vetted and approved by NERC as part of the NERC Exemption Process.

David Burke, Orange and Rockland Utilities

Telephone: 845-577-3076

Email: burkeda@oru.com

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments:

[1] Seven Factor Test – NPCC participating members believe that the BES Exclusion process should place substantial weight upon Factor 3 from the FERC Seven Factor test. Factor 3 states, "Power flows into local distribution systems, and rarely, if ever flows out."[9] We also believe that Factor 7 has been broadly interpreted by FERC, State Commissions and the Courts to **include** facilities serving a distribution function and operated at 100 kV and above.[10,11,12,13,14,15]

[2] **NPCC A-10 Methodology for Determine BPS Elements** – NPCC participating member believe the A-10 Criteria methodology that NPCC uses to determine its BPS elements can be further utilized to identify critical system components that may be below the 100 kV threshold. The Criteria may also be used be used in lieu of the use of "higher" thresholds that appear or are contemplated in some of the ERO standards such as FAC-003 cites 200kV and above, the TPL-001 currently under development may specify a 200 kV threshold for some "more stringent" planning criteria. These higher thresholds may lend themselves to the use of an "impact based" methodology that could be used to determine where more stringent requirements may need to be applied.

[3] **New York State Public Service Commission (NYSPSC)** - In Opinion No. 97-12, Case 97-E-0251, the NYPSC provided utilities under its jurisdiction explicit guidance for determining the point-of-demarcation between transmission facilities under FERC

[9] We view the term "rarely" as used in Factor 3 to be bounded on the upside by a reverse power flow rate of no more than 10% of all hours and a peak reverse power flow (MW) amount of no more than 50% of peak inflows.

[10] STATE OF IOWA DEPARTMENT OF COMMERCE UTILITIES BOARD, DOCKET NO. SPU-98-12, IN RE: MIDAMERICAN ENERGY COMPANY, ORDER RECOMMENDING DELINEATION OF TRANSMISSION AND LOCAL DISTRIBUTION FACILITIES, Issued April 30, 1999. See http://www.state.ia.us/iub/docs/orders/1999/0430_spu9812.pdf

[11] *Pacific Gas and Electric Company, et al.*, 77 FERC ¶ 61,077 at 61,325 (1996).

[12] *Puget Sound Energy, Inc.*, 110 FERC ¶ 61,229 at 61,856 (2005).

[13] Case No. U-l3862, August 26, 2003 meeting of the Michigan Public Service Commission in Lansing, Michigan.

[14] "With regard to the deference it would provide to recommendations by state regulatory authorities concerning where to draw the jurisdictional line between FERC jurisdictional transmission facilities and state-jurisdictional local distribution facilities, FERC provided the following guidelines:… (e) If the utility's classifications and/or cost allocations are supported by the state regulatory authorities and are consistent with the principles established in Order No. 888, FERC **will defer to such classifications** and/or cost allocations." FERC comments filing by *Central Illinois Light Company*, Docket EL03-39-000, filed Dec. 20, 2002.

[15] *Mansfield Municipal Electric Department v. New England Power Co.*, 97 FERC ¶ 61,134 (2001). "…the Municipals' facilities have all of these [Seven Factor Test] indicators except the last one. The voltage of the lines is 115 kV, the same voltage as the transmission grid. As discussed supra, the voltage alone is not dispositive of the issue as to whether a line is distribution or transmission. We must also look at the function."

jurisdiction and distribution facilities under NYSPSC jurisdiction.[16] Appendix C to this Order established three (3) measures that utilities were instructed to use in determining the classification of transmission and distribution assets. See **APPENDIX C**

NEW YORK INDICATORS (FINAL REVISED VERSION)

[NY-1] A transmission system delivers power from generation plants to local distribution systems. Where a generator directly supplies a local distribution system, the need for a transmission system to deliver its output to load depends on the size of the generator in relation to the minimum load of that system.

[NY-2] Transmission systems end at the high-voltage terminals or at the disconnect switch of a substation transformer; if no transformer is present, the transmission system ends at the bus tap of the local distribution feeder.

[16] STATE OF NEW YORK PUBLIC SERVICE COMMISSION, OPINION NO. 97-12 in CASE 97-E-0251 - *Proceeding on Motion of the Commission to Distinguish Bulk Electric Transmission System from Local Distribution Facilities*.

Alice Ireland, Xcel Energy
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3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: Xcel Energy agrees that the FERC Order 743 directs NERC to modify the Rules of Procedure to include the process for how an entity or region may initiate an exclusion or inclusion. However, we do not agree that FERC also directed that the actual criteria and technical specifics for inclusion or exclusion be developed as part of the Rules of Procedure. Furthermore, since the inclusion/exclusion criteria is a key component to the definition of BES, we feel the criteria should be treated as part of the definition development and developed in the same manner as the definition itself. (Preferably by the same drafting team.)

It is also not clear as to why the Reliability Assurer is included as an applicable entity in the SAR.

Allen Mosher, American Public Power Association

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Email: amosher@publicpower.org

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments:

The Concept Paper states at page 1 that in Order 743, FERC directed NERC to do the following:

A. Utilize the NERC Standard Development Process to revise the definition of Bulk Electric System (BES) contained in the NERC Glossary of Terms.

B. Develop a single Implementation Plan to address the application of the revised definition of the BES and the implementation of the exemption process.

C. Utilize the NERC Rules of Procedure to develop and implement an 'exemption process' used to identify Elements and Facilities which will be included in or excluded from the BES.

The Concept Paper continues to state that:

This project will address items 'A' and 'B' and will coordinate efforts between the Standard Drafting Team (SDT) and the group working to develop the exemption process for inclusion in the NERC Rules of Procedure to ensure that the revised BES definition and exemption process result in an accurate, repeatable, and transparent method for the identification of BES and non-BES Elements and Facilities.

APPA agrees that the standards process must be used to develop the revised BES definition and that NERC has been directed to use its Rules of Procedure process to develop an ROP-based procedure to implement an exemption/exclusion/inclusion process. However, the FERC directives do not speak to how and by whom the technical methodology, study criteria and data requirements for requesting and receiving approval for an exemption should be developed.

To the maximum extent possible, subject to time constraints imposed by FERC, this inherently technical methodology needs to be developed through the NERC standards development process, in conjunction with development of the revised definition of BES. Separate development will significantly hamper development of industry consensus in support of the revised BES definition and the yet to be developed ROP modifications for the exemption process.

The most critical question is how do we arrive at a commonly agreed upon, widely accessible, transparent, and replicable continent-wide methodology to determine whether

each specific facility is or is not "necessary to operate an interconnected electric transmission network" to quote from paragraph 16 of Order 743. While each region may have a separate model reflecting its topology and system performance characteristics, a continent-wide approach is required to address FERC concerns about inconsistency across regions that are not the result of physical differences.

The statutory definition of the term bulk-power system defines the outer extent of facilities that can be included (at least within the United States) within the NERC definition of BES. FPA section 215(a)(1) states that the bulk-power system includes "(A) facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof); and (B) electric energy from generation facilities needed to maintain transmission system reliability." Further, the term BPS "does not include facilities used in the local distribution of electric energy." [emphasis added].

Similarly, "reliable operation" is defined at 215(a)(4) to mean "operating the elements of the bulk-power system within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cybersecurity incident, or unanticipated failure of system elements."

These definitions appear to point to two basic questions for the classification of each facility or element as BES or non-BES:

1. Is the facility or element necessary for reliable operation because it contributes significant capability to the interconnected transmission network?
2. Will the misoperation or unanticipated failure of the facility or element adversely affect the reliable operation of the interconnected transmission network?

APPA suggests that the BES SDT or separate study teams should be directed to establish the outline for this study methodology. APPA further suggests that BES sub-teams be established to address the Proposed BES Criteria in the Concept Paper. Separate sub-teams should be established to address detailed system configuration and study methodology issues affecting:

1. Radials serving load (with and without distribution voltage generation not subject to registration)
2. Other transmission elements that entities seek to include in or exclude from the BES.
3. Generating plant equipment that entities seek to include in or exclude from the BES.
4. Technical issues raised by the FERC Seven Factor Test for Local Distribution Facilities.

Separate sub-teams are appropriate because the study issues are likely to be quite distinct. For example, radials serving only load do not provide alternative pathways for reliable BES

operations, as might some sub-100 kV facilities. Mixing the two teams together might slow progress on identification of various commonly used radial to load center configurations that with proper protection schemes do not have the potential to adversely affect the BES. A focused effort on permissible exclusions of radials serving load is essential to prevent distribution providers from adopting less reliable system configurations to serve their loads because they are concerned that the preferred configuration will make them subject to registration as TOs and/or TOPs.

Note that the proposed sub-teams do not necessarily have to be populated by members of the SDT. The new standards process allows SDTs to gather informal input from a variety of sources. However, development and posting for industry comment of the minimum acceptable characteristics of the study methodology to be used in the Exceptions Process should be the responsibility of the BES SDT.

The Comment Form on the Exclusion Process poses reasonable questions and it is my hope that registered entities and regional entities identify numerous candidate facilities and elements for inclusion or exclusion from the BES, accompanied by one-line diagrams that lay out each of the permutations for such facilities that are candidates for exclusion/inclusion. These facilities range from simple radial transmission lines and distribution step-down transformers to 100 kV class distribution networks that operate radially from the BES. I also hope that entities submit extensive technical documentation to explain why such facilities should be excluded from or included in the BES.

Jim Case, Entergy SERC OC Standards Review Group

SERC OC Standards Review Group participants in developing the above comments:

Jim Case, Entergy
Gerald Beckerle, Ameren
Andy Burch, EEI
Randy Castello, Miss Power
Dan Roethemeyer, Dynegy
Melinda Montgomery, Entergy
Sam Holeman, Duke
Joel Wise, TVA
Alvis Lanton, SIPC
Hamid Zakery, Dynegy
John Neagle, AECI
Mike Hirst, Cogentrix
Tim Hattaway, PowerSouth
Robert Thomasson, BREC
Shardra Scott, Gulf Power
Patrick Woods, EKPC
Alisha Ankar, Prairie Power
Bill Hutchison, SIPC
J.T. Wood, Southern

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Email: jcase@entergy.com

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: Each inclusion and exclusion should be based solely on its technical justification.

"The comments expressed herein represent a consensus of the views of the above named members of the SERC OC Standards Review group only and should not be construed as the position of SERC Reliability Corporation, its board or its officers."

John P. Hughes, Electricity Consumers Resource Council (ELCON)

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Email: jhughes@elcon.org

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: ELCON members have always supported fair and effective reliability efforts at NERC. However, the expansion of the standards compliance responsibility implied by the NERC Concept Document goes too far. As written, this proposal could have the effect of devaluing a large number of industrial owned electrical power assets by forcing industrials to meet new and unnecessary compliance obligations. Many will be forced to choose to either accept a significant new cost or fire sale their assets to local providers increasing the purchaser's market power in the process. ELCON feels the addition of new compliance obligations should not be done in such a wholesale manner but instead done on an exception and as needed basis that factors in both a realistic appraisal of the underlying risk and the economic burden imposed on the registered entity relative to the expected benefits.

Specific recommendations and concerns are:

1. An Overarching "Principle" for the Identification of BES Elements and Facilities Must be the Guidance Provided by FERC That Significant Expansion of the Compliance Registry is Not Contemplated.

In FERC's March 18, 2010 Notice of Proposed Rulemaking (NOPR) on the Revision to Electric Reliability Organization Definition of Bulk Electric System, the Commission stated regarding the revision to the BES definition:

> This proposal would eliminate the discretion provided in the current definition for a Regional Entity to define "bulk electric system" within a region. Importantly, however, we emphasize that we are not proposing to eliminate all regional variations and we do not anticipate that the proposed change would affect most entities. ¶ 16. … the Commission does not believe that the proposal would have an immediate effect on entities in any Regional Entity other than NPCC. ¶ 27.

Similarly, in Order No. 743, the Commission stated:

> We expect that our decision to direct NERC to develop a uniform modified definition of "bulk-electric system" will eliminate regional discretion and ambiguity. The change will not significantly increase the scope of the present definition, which applies to transmission, generation and interconnection facilities. The proposed exemption process will provide sufficient means for entities that do not believe particular facilities are necessary for operating the interconnected transmission system to apply for an exemption. ¶ 144.

One area where the proposed BES definition and exception process will significantly expand the Compliance Registry is the criteria applicable to behind-the-meter generation (primarily cogeneration facilities). We urge that the BES definition should not change the currently applicable 20 MVA / 75 MVA generation size threshold applicable to generation facilities or the manner in which that threshold is currently applied, with behind- the- meter cogeneration facilities evaluated based on the net capacity actually provided to the grid.

2. A Second Overarching "Principle" for the Identification of BES Elements and Facillities Is the Need to Clarify Which Facilities Perform a True Transmission Function and Excluding Facilities That Perform a Local Distribution Function, As Required by Law.

Congress stated in Federal Power Act section 215:

SEC. 215. ELECTRIC RELIABILITY.
''(a) DEFINITIONS.—For purposes of this section:
''(1) The term 'bulk-power system' means—
''(A) facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof); and
''(B) electric energy from generation facilities needed to maintain transmission system reliability.

The term does not include facilities used in the local distribution of electric energy.

There has been little attempt by NERC to clarify what in fact are "facilities used in the local distribution of electric energy" even though any plain English application of the term makes such a determination self-evident. The proposed BES definition should expressly exclude facilities used in the local distribution of electric energy, and the identification of such facilities is independent of the identification of BES transmission. Facilities used for local distribution are NOT the residual of any determination of what are BES transmission facilities.

3. A Third Overarching "Principle" for the Identification of BES Elements and Facilities Must be Recognition of the Risk Imposed by the Element or Facility, and the Economic Burden of the Owner/Operator of the Element of Facility.

The efforts of the BES Standards Drafting Team follow the release of two important policy documents.

First, on January 18, 2011, the White House issued an Executive Order ("Improving Regulation and Regulatory Review") by President Obama regarding improvements to federal regulations and the review of existing regulations to ensure, among other things, that a regulation be proposed or adopted "only upon reasoned determination that its benefits justify its costs," and that regulations be tailored "to impose the least burden on society."

Second, the NERC Planning Committee issued on January 10, 2011, "Risk-Based Reliability Compliance – White Paper Concept Discussion," which attempts to advance "processes and procedures to prioritize [NERC's] efforts and 'tiering' elements of its programs to maximize their value and optimize the benefit/cost of effort from stakeholders." This white paper complements the President's Executive Order.

ELCON believes that BES exclusion criteria and process should recognize and exclude elements and facilities in which the risk to bulk electric system reliability is at most theoretical or speculative, and where the compliance burden clearly outweighs the benefits. Such a determination should recognize the historical record of the element or facility in terms of the owner or operator's coordination with the BA or control area, and transmission operators. This principle should be applied to the development of exclusion/inclusion criteria for private lines that connect loads and behind-the-meter generation to true BES Elements and Facilities.

4. An Additional Principle for the Identification of BES Elements and Facilities Should Be the Explicit Recognition on How the Element or Facility is Actually Operated or Used, Not Its Physical or Nominal Rating That May be Irrelevant to Reliability Considerations.

In Order No. 743, FERC clarified that it did not intend to require NERC to utilize the term "rated at" rather than the term "operated at" for the voltage threshold in the revised BES definition. A principle for the identification of BES Elements and Facilities should be such recognition and not exclusively on the rated value of an Element or Facility. This principle should be used to retain the exclusion in the Statement of Compliance Registry Criteria (Revision 5.0) for "net capacity provided to the bulk power system" in the context of the 20 MVA generating unit and 75 MVA generating plant thresholds. The "net capacity" applies to capacity "put" of a behind-the-meter generator whose predominant function is to serve load at the same site.

5. An Additional Principle for the Identification of BES Elements and Facilities Should be the Exclusion of PSEs That Do Not Own or Operate Physical Assets and Whose Power Transactions Are Exclusively Financial in Nature.

Many PSEs that operate in FERC jurisdictional organized wholesale markets (i.e., ISOs and RTOs) do not own, operate or lease physical assets and are currently bombarded with data requests that assume that they own or control such assets. An example of a superfluous data request is to prove that adequate reactive power has been procured to support the load. This is a question that should not have been asked and displays a profound ignorance of the operation of ISO/RTO markets. One potential solution to this problem is to create two subsets of PSEs: one that owns and operates physical assets that are used to serve their loads, and a second that does not.

Some Regional Entities have also begun to ask questions that require PSEs to reveal the details of specific commercial transactions. This raises a broader question on what NERC and regional compliance staffs and auditors "need to know" and whether such questions are an abuse of their enforcement authority.

6. Any Attempt to Make Demand Side Management (DSM) Measures an Element or Facility of BES Will Be Shortsighted and Counterproductive.

Proposals that unilaterally and arbitrarily remove exclusions for generation and transmission, including the application of new compliance obligations to DSM programs, go far beyond what FERC intended in its guidance for revisions. Any new requirement concerning voluntary DSM adds cost to a process that so far has only acted to support reliability with performance equal to and sometimes superior to traditional providers. How is it that a potential resource that can contribute to maintaining reliability is now so quickly identified as a risk? We warn against the overzealous pursuit of control over every asset and resource on the electric system. This mindset will only breed cynicism and end the willingness of potentially dispatchable loads to cooperate with the real operators and owners of the BES.

A recently issued FERC study highlights the potential value to reliability of DSM (in the form of dispatchable demand response) (See Joseph H. Eto et al., Use of Frequency Response Metrics to Assess the Planning and Operating Requirements for Reliable Integration of Variable Renewable Generation, LBNL-4142E, December 2010). To reliably integrate greater amounts of wind energy resources to the bulk electric system, the study recommended the:

Expanded use of demand response that is technically capable of providing frequency control (potentially including smart grid applications), starting with broader industry appreciation of the role of demand response in augmenting primary and secondary frequency control reserves.

7. Revising the Definition of BES Does Not Justify Shifting the Plenary Burden for BPS Reliability from Utilities to Utility Customers. A BES Principle Should Recognize That the Obligation to Serve Applies in One Direction.

The only reason the bulk power system exists is to deliver electric power to residential households, commercial businesses, government facilities and industrial facilities of all sizes. The value of a reliable BPS is dependent on the needs of end use customers. Nothing in the legislative history of section 215 of the Federal Power Act suggests that Congress wittingly intended to change that relationship.

The burden of complying with NERC Reliability Standards is a cost of doing business for utility providers of generation, transmission and distribution services. Generation and interconnection facilities of industrial customers are almost never intended for or used to "operate the interconnected transmission network." Those facilities are integral to a manufacturing process, including purchasing power from the grid. They were built in expectation that the BPS was prudently planned and operated by utilities. The rare exceptions are administered under applicable tariffs or contracts, and are already Registered Entities.

Part of NERC's effort should include defining the line between a BES asset that is used to deliver power and an End User asset that's sole purpose is to serve the End User's load. The NERC Functional Model includes a vague definition of End-use Customer. The problem is determining the scope of an end-use device. If an industrial company owns a 138 kV to 13.8 kV transformer that feeds its plant, is that an end-use device or a transmission asset that is used to transmit power to the low voltage distribution network within the manufacturing facility? Any work to revise the definition of the BES should also include a clarification of its boundaries. We believe that NERC should not expand the scope of the BES to include assets within end-use customer's private use networks.

8. An Additional BES Principle Should be that BES Elements and Facilities be Limited to Only Functions Currently Specified in the NERC Functional Model (Version 5).

NERC's development of the revised BES definition and exclusion/inclusion criteria and processes should be limited to functions specified in the NERC Functional Model (Version 5).

9. NERC is Encouraged to Propose a "Different Solution" That is as Effective as, or Superior to, the Commission's Proposed Approach. The Proposed Principles for the Exclusion of Elements and Facilities from the BES Should Include a Process for Categorical Exclusion Based on Common Physical Characteristics.

The Commission stated in Order No. 743 regarding its proposed revision of the BES definition (and presumably the exclusion/inclusion criteria and processes):

… NERC may propose a different solution that is as effective as, or superior to, the Commission's proposed approach in addressing the Commission's technical and other concerns so as to ensure that all necessary facilities are included within the scope of the definition. ¶ 16.

In addition, specific to the exclusion of Elements and Facilities from the BES, the Final Rule did not adopt the exclusion process proposed in the NOPR (i.e., facility-by-facility review). In the Final Order, FERC directed NERC to develop an exclusion process "with practical application that is less burdensome than the NOPR proposal."

FERC has also allowed NERC to consider concerns (mainly industrials') regarding "exclusion categories" in developing the exclusion process and criteria. ¶ 120.

ELCON interprets the Commission's statements to mean that the agency is open to developing a more efficient compliance process, including processes that minimize unnecessary regulatory burdens on potential Registered Entities and the administrative costs of NERC and RE compliance operations. In the spirit of "streamlining" NERC and the REs' review of smaller entities, ELCON recommends the addition of a principle on the exclusion of Elements and Facilities from the BES that encourages a process for categorical exclusion of entities based on common physical characteristics.

Thad Ness, American Electric Power

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3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: We appreciate the opportunity to provide advance comments on the BES definition exemption process. The comments provided above are initial thoughts, and are by no means an exhaustive itemized list of exemptions. AEP looks forward to contributing additional input through the standards development process when the SDT provides drafts or revisions.

Amir Hammad, Constellation Power Source Generation, Inc. (CPSG), Et All

CPSG is filing the comments below on behalf of:
Constellation Energy Group, Inc.
Baltimore Gas & Electric Company
Constellation Energy Commodities Group, Inc.
Constellation Energy Control and Dispatch, LLC
Constellation NewEnergy, Inc. and its affiliates
Constellation Energy Nuclear Group, LLC,[17]

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Email: amir.hammad@constellation.com

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: While the Regional Bulk Electric System Coordination Group has done an admirable job at drafting an initially proposed list of inclusion and exclusion criteria, Constellation strongly suggests that the continued work on criteria be orchestrated through the FERC-approved standard development process and not as part of a Rules of Procedure revision. We view development of the technical criteria for both the BES definition and exemption process as a single exercise.

The compliance implications and technical nature of such criteria make it imperative that industry input be considered in a transparent stakeholder process. It is appropriate for NERC to develop aspects such as the administrative management, the role and interaction of the regions, an appeal process, etc. However, due to the technical aspects of BES operation, the drafting team members are best suited to devise criteria for inclusion or exclusion of facilities to the BES.

To clarify the distinction between the exception process and the exception criteria, the purpose statement in the concept document should add a fourth bullet to read:

- **A.** Utilize the NERC Standard Development Process to revise the definition of Bulk Electric System (BES) contained in the NERC Glossary of Terms.
- **B.** Utilize the NERC Standard Development Process to develop exception criteria to be utilized in the exception process.Develop a single Implementation Plan to address the application of the revised definition of the BES and the implementation of the exemption process.

[17] On November 6, 2009, EDF, Inc. ("EDF") and Constellation Energy Group, Inc. completed a transaction pursuant to which EDF acquired a 49.99 percent ownership interest in CENG. CENG was previously a wholly owned subsidiary of Constellation Energy Group, Inc.

C. Utilize the NERC Rules of Procedure to develop and implement an 'exemption process' used to identify Elements and Facilities which will be included in or excluded from the BES.

The revised definition should expressly incorporate exclusions for facilities below 100 kV. Entities should not have to seek an exemption for facilities below 100 kV or for radial lines. They should be clearly excluded in the BES definition itself. We encourage the drafting team to embrace a design concept that seeks to maximize the "brightness" of bright line criteria. The BES exemption process should contemplate very few exemptions. The TFE process is an example of a process not to be repeated here.

In addition, Constellation is not convinced that creation of a definition and an exception process is the best course to respond to the FERC directives. We are concerned that the current approach of a simple, all inclusive definition coupled with an exception criteria and process will not draw on the fundamentals underpinning the existing definition and create a cumbersome and unnecessary exception process.

As an alternative, we propose that the standard drafting team utilize the Compliance Registry Criteria – Section III (Rules of Procedure Appendix 5B) along with definition threshold language to develop a more comprehensive definition. Further, we propose that the BES drafting team incorporate the criteria directly into the revised BES definition, replacing the term "bulk power system" in each criterion with "greater than 100 kV." It will make for a longer definition, but by aligning the facilities requiring registration as those defined as BES, the definition will more clearly determine the line between BES and non-BES. It is preferable that non-BES facilities be excluded by the definition language rather than to define BES broadly and require non-BES facilities go through an exception process. Ideally, this approach can eliminate the need for an onerous exemption process as well as eliminate the need for Section III of the Registry Criteria in the Rules of Procedure.

For special case facilities deemed non-BES by the revised definition that may warrant consideration for inclusion, an "opt-in" evaluation could be conducted.

The rules of procedure process may be used to develop the "opt-in" process that would replace the proposed exception concept; however, the drafting team, perhaps in collaboration with regional entities, should develop any opt-in criteria needed for the process. Again, it is appropriate for NERC to develop aspects such as the administrative management, the role and interaction of the regions, an appeal process, etc. However, due to the technical aspects of BES operation, the drafting team members are best suited to devise criteria for non-BES facilities to warrant inclusion in the BES.

We find that this approach to revising the BES definition would satisfy the FERC directives in Order 743 by encompassing all facilities necessary for operating an interconnected electric transmission network into a national level, bright-line definition. This approach will improve the clarity and consistency of the BES definition for application by Industry and NERC as well as avoiding creation of a potentially cumbersome exception process.

Shaun Anders, City Water Light and Power

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3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: CWLP has chosen to comment on the inclusion/exclusion process as a whole. The current lack of detailed, firm administrative guidelines as well as an unambiguous process for resolving disputes between parties involved in the process of adjudicating inclusions/exclusions is problematic. It is CWLP's belief that developing the proposed administrative framework for the process is needed first. Focusing on the data to be submitted as shown in (1) and (2) above does not address the scope, nature, and criteria applicable to the review of requests for inclusions/exclusions. Regardless, CWLP feels strongly that the sole basis for approval or rejection of a request should be technical justification.

Speaking to the process in general, any inclusion or exclusion should be a specific request for a specific facility; continent-wide, interconnect-wide, and region-wide applicability for inclusions/exclusions departs from the intent of FERC Order 743 to establish a definition without regional variances.

Marc M. Butts, Southern Company

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Email: mmbutts@southernco.com

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: The evaluation method should be clear, understandable, and technically based. Sometimes the "process" is called an Exemption Process and other times it is called "Exception Process",

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Email: apusztai@atcllc.com

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments:

a. ATC feels strongly that the exemption criteria need to be developed by the SDT. NERC Staff should focus on the process (identification, notification, appeal and rights) but the SDT is in the better position to develop the technical basis of the exemption criteria.

b. The NERC process for exclusion or inclusion must clearly address who is responsible for submitting an Element or Facility Exception Process. Is it limited to the asset owner of the Element or Facilities, or is it open to neighboring entities that may want to initiate a request for exemption or inclusion to the BES?

c. Also, ATC believes the process should allow for multi-year distinctions for exceptions. In other words, if a Registered Entity gets an Element or Facility excluded, then that exclusion or inclusion should be allowed for 3 or more years. Annual certifications and approval are too restrictive.

d. ATC also supports the comments as submitted by EEI REAC on the Draft Concept Paper on the Definition of BES Project 2010-17

Al DiCaprio, PJM

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3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: We have difficulties understanding the intent of this Comment Form and the content in Q1 and Q2, above, which appear to be templates for information to be included in an exclusion/inclusion request rather than asking for comments on each of the listed items.

1. Is the intent of this Comment Form to obtain:
   a. Recommendations of the criteria to be considered in developing deviations from the default criteria for classifying Elements and Facilities as part of the BES?
   b. Assessment of the templates proposed in Q1 and Q2?
2. The concept paper that is posted alongside the SAR and proposed definition is not referenced in this Comment Form. Is it the drafting team's intent to solicit comments on the concept paper?
3. In the concept paper, three exemption criteria are presented. We do not have any issue with the first and third criteria but are concerned that Criterion #2 is not a criterion. It states that:

"Elements and Facilities identified through application of the exemption process, consistent with the criteria, where the exemption process deems that the Element or Facility should be excluded from the BES (with concurrence from the ERO)."

This criterion appears to reference yet another set of criteria not already included in the set or the concept paper. In fact, this "referenced" set needs to be clearly stipulated to ensure that applicants are fully aware of the conditions under which an Element or Facility operated at 100 kV or above can be deemed not necessary to support bulk power system reliability and, conversely, the conditions for an Element or Facility operated at below 100 kV to be included. The "templates" presented in Q1 and Q2 of this Comment Form also do not convey the needed conditions.

We believe it is the clear conditions for exclusion (Elements/Facilities of 100 kV and above) and inclusion (below 100 kV) that need to be developed and fully vetted. We urge the drafting team to proceed to developing these criteria expeditiously so as to support the assessment and approval of the revised definition of BES.

Bud Tracy, Blachly-Lane Electric Cooperative

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Email: tracyb@blachlylane.coop

3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments:

1. We have a number of concerns related to the initial SAR proposal:

a) The primary concern expressed by FERC in Order No. 743 was the discretion the current definition accords to the RROs to develop their own definition of the BES without approval by NERC or FERC. See Order No. 743, 133 FERC ¶ 61,150 at P 16 (2010) (FERC believes the "best way to address these concerns is to eliminate the Regional Entities' discretion to define 'bulk electric system' without ERO or Commission review"); at 30 (same). Hence, we believe FERC's concern can be addressed by simply removing the phrase "As defined by the Regional Reliability Organization" from the existing definition. The result would be that the RROs could then develop regionally-appropriate rules based on the uniform definition, which NERC and FERC could then approve, giving deference to the technical findings of the RROs and NERC, as the FPA requires. FPA Section 215(d), 16 U.S.C. § 825o(d). We urge the standards drafting team to consider the virtues of such a minimalist approach and then focus on alternative approaches that will achieve FERC's aim more effectively and/or at lower cost, and on the exemption process, which will, unless FERC abandons its insistence on a 100-kV bright-line threshold, be the most important aspect of the standards development process.

b) The definition proposed in the SAR would incorporate "All Transmission and Generation Elements and Facilities" that are "necessary to support bulk power system reliability." We applaud the effort to properly restrict the definition of BES using the NERC-defined terms "Transmission," "Generation," "Elements" and "Facilities." By using these terms, the drafting team recognizes that Congress excluded from the statutory "Bulk-Power System" definition "facilities used in the local distribution of electric energy," FPA Section 215(a)(1), 16 U.S.C. § 825o(a)(1), and has thereby excluded such facilities from the reach of the mandatory reliability system. Similarly, by focusing the definition on "Transmission" and "Generation," the standards drafting team recognizes that Congress limited the reach of reliability standards to: (1) "facilities and control systems necessary for operating an interconnected electric energy transmission network," and, (2) "electric energy from generation facilities needed to maintain transmission system reliability." Id.

When viewed in the context of the proposed BES definition, however, we are concerned that incorporating the terms as defined in the NERC Glossary may create unnecessary confusion and ambiguity. For example, the NERC Glossary defines "Facility" as "[a] set of electrical equipment that operates as a single Bulk Electric System Element." But attempting to define BES by using a term that itself incorporates "Bulk Electric System" is circular and is likely to create confusion in applying the revised definition. Similarly, "Generation" is not specifically defined in the NERC Glossary of Terms, creating potential confusion.

Finally, the NERC Glossary defines "Transmission" in part as "the movement or transfer of electric energy between points of supply and points at which it is transformed for delivery to customers." This creates the potential for an over-inclusive definition since "Transmission" could, by this definition, be understood to encompass only the last transformation of voltage to end-user level voltage in a system, whereas distribution systems generally include several downward transformations of voltage between the point of bulk delivery and the end-use consumer. One could argue that each of the segments between delivery of bulk power to the local distribution utility and that utility's step-down transformers is, by the terms of the definition, merely moving power "between points of supply" and only the last segment includes the "point at which [power] is transformed for delivery to customers." This, of course, would improperly classify a large portion of most distribution system as "Transmission."

For these reasons, it may be necessary to define "Generation" and to more precisely define "Facility" and "Transmission" as part of the standards drafting process.

We note, on the other hand, that "reliable operation" was a term specifically defined by Congress in FPA Section 215 to include the operation of BES elements "within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance. . . or unanticipated failure of system elements." 16 U.S.C. § 825o(a)(4). Congress specifically precluded the mandatory reliability system from enforcing standards for adequacy of service, which were left to state and local authorities. 16 U.S.C. § 825o(i)(2). Accordingly, we applaud the standards drafting team for including in the BES only facilities "necessary to support bulk power system reliability," because the use of the italicized term at least implicitly excludes from the definition facilities that affect only the levels of service that were explicitly excluded from the mandatory reliability regime by Congress and do not affect "reliable operation" of the BES as Congress defined it.

c) The proposed SAR definition unnecessarily restricts the exclusion in the existing definition for radial facilities. The existing definition provides that radial facilities are "generally not included" in the BES. The proposed new definition would significantly restrict this exclusion, excluding radial systems from the BES only if they are excluded through the "BES definition exemption process." We believe there is no reason to make radial systems and other elements of the electric system

that, because of their limited interaction with the bulk system, have no meaningful impact on bulk system reliability go through a potentially onerous exemption process. Rather, such systems should be presumptively excluded from the definition, as they are now. Further, for the reasons set forth in detail by the WECC BESDTF, local distribution networks in the West should be subject to a similar categorical exclusion, subject to inclusion in the BES only upon a demonstration that the network creates substantial reliability risks for the bulk system. This approach is consistent with FERC's direction that "radial facilities, as well as facilities used in the local distribution of electric energy as provided in Section 215, will continue to be excluded." Order No. 743 at P 120.

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3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments:

1. The work that has been completed by the WECC Bulk Electric System Definition Task Force is based on sound engineering principles and appears to be a comprehensive solution to defining the BES and providing a means for exceptions to the 100 kV "bright line" criteria. The NERC BES Drafting Team is urged accept the proposal in whole or include contained principles to guide NERC's process for exception.
2. There is serious concern in the Western Interconnection that if a strict 100 kV bright line is mandated that billions of dollars will be needed to be upgrade 100kV to 200 kV distribution elements to comply with NERC reliability/security standards. There is a significant potential for unintended consequences. A serious one is that there could be substantially less monetary resources available for new transmission investment for high impact BES elements and for relieving congestion. Another is FERC would arguably be negating the 7 factor test for distribution facilities, extending FERC jurisdiction over distribution facilities, bringing costs for such facilities into the FERC tariffs, and reducing PUC state review of such investments. These could result in substantial cost increases and/or reliability issues for electric consumers.

John D. Martinsen , Public Utility District No. 1 of Snohomish County

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3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments:

1. We have a number of concerns related to the initial SAR proposal:

a) The primary concern expressed by FERC in Order No. 743 was the discretion the current definition accords to the RROs to develop their own definition of the BES without approval by NERC or FERC. *See* Order No. 743, 133 FERC ¶ 61,150 at P 16 (2010) (FERC believes the "best way to address these concerns is to eliminate the Regional Entities' discretion to define 'bulk electric system' *without ERO or Commission review*"); at 30 (same). Hence, we believe FERC's concern can be addressed by simply removing the phrase "As defined by the Regional Reliability Organization" from the existing definition. The result would be that the RROs could then develop regionally-appropriate rules based on the uniform definition, which NERC and FERC could then approve, giving deference to the technical findings of the RROs and NERC, as the FPA requires. FPA Section 215(d), 16 U.S.C. § 824o(d). We urge the standards drafting team to consider the virtues of such a minimalist approach and then focus on alternative approaches that will achieve FERC's aim more effectively and/or at lower cost, and on the exemption process, which will, unless FERC abandons its insistence on a 100-kV bright-line threshold, be the most important aspect of the standards development process.

b) The definition proposed in the SAR would incorporate "All *Transmission* and *Generation Elements* and *Facilities*" that are "necessary to support bulk power system *reliability*." We applaud the effort to properly restrict the definition of BES using the NERC-defined terms "Transmission," "Generation," "Elements" and "Facilities." By using these terms, the drafting team recognizes that Congress excluded from the statutory "Bulk-Power System" definition "facilities used in the local distribution of electric energy," FPA Section 215(a)(1), 16 U.S.C. § 824o(a)(1), and has thereby excluded such facilities from the reach of the mandatory reliability system. Similarly, by focusing the definition on "Transmission" and "Generation," the standards drafting team recognizes that Congress limited the reach of reliability standards to: (1) "facilities and control systems necessary for operating an interconnected electric energy transmission network," and, (2) "electric energy from generation facilities needed to maintain transmission system reliability." *Id.*

When viewed in the context of the proposed BES definition, however, we are concerned that incorporating the terms as defined in the NERC Glossary may create unnecessary confusion and ambiguity. For example, the NERC Glossary defines "Facility" as "[a] set of electrical equipment that operates as a single Bulk Electric System Element." But attempting to define BES by using a term that itself incorporates "Bulk Electric System" is circular and is likely to create confusion in applying the revised definition. Similarly, "Generation" is not specifically defined in the NERC Glossary of Terms, creating potential confusion.

Finally, the NERC Glossary defines "Transmission" in part as "the movement or transfer of electric energy between points of supply and points at which it is transformed for delivery to customers." This creates the potential for an over-inclusive definition since "Transmission" could, by this definition, be understood to encompass only the last transformation of voltage to end-user level voltage in a system, whereas distribution systems generally include several downward transformations of voltage between the point of bulk delivery and the end-use consumer. One could argue that each of the segments between delivery of bulk power to the local distribution utility and that utility's step-down transformers is, by the terms of the definition, merely moving power "between points of supply" and only the last segment includes the "point at which [power] is transformed for delivery to customers." This, of course, would improperly classify a large portion of most distribution system as "Transmission."

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c) The proposed SAR definition unnecessarily restricts the exclusion in the existing definition for radial facilities. The existing definition provides that radial facilities are "generally not included" in the BES. The proposed new definition would significantly restrict this exclusion, excluding radial systems from the BES

only if they are excluded through the "BES definition exemption process." We believe there is no reason to make radial systems and other elements of the electric system that, because of their limited interaction with the bulk system, have no meaningful impact on bulk system reliability, go through a potentially onerous exemption process. Rather, such systems should be presumptively excluded from the definition, as they are now. Further, for the reasons set forth in detail by the WECC BESDTF, local distribution networks in the West should be subject to a similar categorical exclusion, subject to inclusion in the BES only upon a demonstration that the network creates substantial reliability risks for the bulk system. This approach is consistent with FERC's direction that "radial facilities, as well as facilities used in the local distribution of electric energy as provided in Section 215, will continue to be excluded." Order No. 743 at P 120.

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3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: Our understanding of the FERC Order was that the threshold would be 100 kV "**except** for defined radial facilities" and that they also ordered NERC to adopt an "**exemption process**". The question confuses the two distinct parts by speaking of an "**exception process"** never ordered by FERC. We urge the SDT to clearly define "radial" in such a way that no external "process" is needed, and that radial facilities can easily be determined by each registered entity by inspection. And if they have facilities that don't meet the radial definition, they may still be put through a formal exemption process and be exempted if they are found not to contribute to reliable operation of the BPS.

The WECC Bulk Electric System Definition Task Force has done extensive work on this topic. Please consider their current work when drafting the BES definition and exemption process.

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3. Please provide any other information that you feel would be helpful to the group working to develop a BES Definition Exception Process.

Comments: Based on the information posted by the North American Electric Reliability Corporation (NERC) on its plans to address Order No. 743 of the Federal Energy Regulatory Commission (FERC), NextEra Energy, Inc.1 (NextEra) believes that NERC (and associated drafting teams) should slightly modify its direction to more closely align with FERC's proposed framework. In Order No. 743, at paragraph 30, FERC stated that:

The Commission believes the best way to address these concerns is to eliminate the regional discretion in the ERO's current definition, maintain the bright-line threshold that includes all facilities operated at or above 100 kV except defined radial facilities, and establish an exemption process and criteria for excluding facilities the ERO determines are not necessary for operating the interconnected transmission network. It is important to note that Commission is not proposing to change the threshold value already contained in the definition, but rather seeks to eliminate the ambiguity created by the current characterization of that threshold as a general guideline.

1 NextEra registered entities, which include NextEra Energy Resources, Inc. and Florida Power & Light Company, operate in the eight NERC regions. **Official Comment form for BES Definition Exception Process** FERC also provided NERC with the opportunity to propose an alternative approach. NextEra believes, however, that FERC's proposed framework is appropriately designed to enhance the definition of the Bulk Electric System (BES) in the NERC glossary, and to separately develop a process to apply for and receive, as appropriate, an exemption from the BES definition. Although it appears that NERC and the drafting teams may also be inclined to proceed as suggested by FERC, there are indications in the questionnaire and BES concept paper that there may be some thought to deviating from FERC's proposal.

A review of the information posted by NERC seems to indicate NERC's intention to have a drafting team develop a revised BES definition via the standards development process (*i.e.*, Appendix 3A of the NERC Rules of Procedure). It also seems that NERC is interested in assigning a "working group" to separately develop an exemption process that would be implemented as a new process in the NERC Rules of Procedure. NextEra agrees with this approach.

NextEra's concerns stem from some of the words in the proposed BES definition, the BES concept paper and the questions asked, which seem to suggest an unnecessarily overlapping definition and exemption process, and a movement toward an exemption process based on categories rather than criteria. Thus, to address these concerns NextEra proposes the

following enhancements to more clearly separate the BES definition and exemption process, and align each more closely with Order No. 743.

As for the BES definition, NextEra encourages the drafting team to solely focus its efforts on the definition. The currently posed revised BES definition reads as follows:

Bulk Electric System: All Transmission and Generation Elements and Facilities operated at voltages of 100 kV or higher necessary to support bulk power system reliability. Elements and Facilities operated at voltages of 100kV or higher, including Radial Transmission systems, may be excluded and Elements and Facilities operated at voltages less than 100kV may be included if approved through the BES definition exemption process.

NextEra maintains that this is not the correct starting point, nor consistent with Order No. 743 or the other material posted by NERC, that suggests a more definitive separation of the BES definition from the exemption process. Thus, NextEra proposes that the definition be revised to read as follows:

Bulk Electric System: All Transmission and Generation Elements and Facilities operated at voltages of 100 kV or higher, unless a Transmission or Generation Element or Facility has been exempted pursuant to the exemption process set forth in the NERC Rules of Procedure. **Official Comment form for BES Definition Exception Process** This proposed BES definition more clearly and cleanly separates the BES definition from the exemption process. It also does not add unnecessary qualifiers or verbiage that may result in confusion.

NextEra is also concerned that the working group assigned to the exemption process may initially be more focused on developing categories, instead of an exemption process and associated criteria. Given the unique circumstances of the interconnected BES, including system topology, NextEra does not believe that it would be a productive exercise for the exemption working group to focus on types, groups or categories of equipment; instead, its efforts should focus on developing specific objective criteria to judge the reasonableness of a request or application for an exemption. This approach also seems more in line with FERC's statement in Order No. 743 at paragraph 115:

NERC should develop an exemption process that includes clear, objective, transparent, and uniformly applicable criteria for exemption of facilities that are not necessary for operating the grid. The ERO also should determine any related changes to its Rules of Procedures that may be required to implement the exemption process, and file the proposed exemption process and rule changes with the Commission. The challenges of developing an exemption process also include ensuring than any applicant is afforded due process and balanced decision-making, as required by section 215 of the Federal Power Act. Thus, the exemption process must address legal, regulatory and technical issues.

Accordingly, NextEra requests that NERC assemble a working group (perhaps via the Standards Committee) to develop the exemption process that is comprised of stakeholders

with legal, regulatory and technical experience. Without this balance of disciplines, NextEra is concerned that a technical-heavy working group will attempt to develop a "fix," instead of a process whereby applicants may request an exemption, and have that exemption judged by specific criteria and pursuant to a process that affords due process and balanced decision-making.

It is not clear whether an exemption working group has already been assembled. If it has, NextEra requests that NERC consider restructuring of the group consistent with NextEra's proposal.

In summary, NextEra requests that the BES definition drafting team adopt NextEra's proposed definition of BES. NextEra also requests that NERC assemble a cross-functional working group to develop an exemption process based on specific criteria (rather than categories), and a process that affords applicants due process and balanced decision-making.

Phil Tatro, NERC Staff

NERC Staff Comments on Bulk Electric System (BES) Concept Document

NERC staff appreciates the opportunity to provide comments on the concept document drafted by the Regional Bulk Electric System Definition Coordination Group (Coordination Group). We believe the concept document provides a good starting point from which discussion of the BES definition (included/excluded Facilities) and exemption process should begin.

In defining the boundaries of the BES, we believe there are some key principles that must be in place:

- The BES must be contiguous. For example, BES generation's connections and paths to Transmission need to be part of the BES.
- The BES definition must be continent-wide, with a uniform process for considering regional inclusions or exclusions.
- The BES definition cannot override any criteria already explicitly established in a standard. In other words, if a standard applies to specifically identified Elements or Facilities, then the BES definition or a regional exclusion cannot be used to modify the Elements or Facilities to which the standard is applicable (e.g., FAC-003-1, PRC-023-1).

We started with the Facilities identified in the *Statement of Compliance Registry Criteria (Revision 5.0)*[18] since these Facilities have been vetted by the industry. We used this starting point to develop a framework that we believe can be helpful as the industry continues to work on defining the BES. Our framework has the BES defined in three parts:

1. BES Generation
2. BES Transmission (excluding Facilities used for local distribution, such as certain radial transmission Facilities and certain transformers)
3. BES Protection and Controls

These three BES components are described in Sections 1, 2, and 3. This framework could serve as a continent-wide "base definition" to which additional inclusion and exclusion of Elements or Facilities could be applied at the regional level as described in Section 4. As Section 5 discusses, these comments do not address registration or functional model impacts resulting from the BES definition.

The details of what we think are appropriate for inclusion or exclusion in each component of the base definition is contained in each of three sections below. The rationale is described in italicized font[19], as well any changes from current NERC practice. For convenience, the definitions from the *Glossary of Terms Used in NERC Reliability Standards* used herein are in the table below.

[18] http://www.nerc.com/files/Statement_Compliance_Registry_Criteria-V5-0.pdf

[19] If an Element or Facility is included in the *Statement of Compliance Registry Criteria (Revision 5.0)*, we have not provided a rationale.

Term	*Glossary* Definition
Blackstart Resource	A generating unit(s) and its associated set of equipment which has the ability to be started without support from the System or is designed to remain energized without connection to the remainder of the System, with the ability to energize a bus, meeting the Transmission Operator's restoration plan needs for real and reactive power capability, frequency and voltage control, and that has been included in the Transmission Operator's restoration plan.
Cranking Path	A portion of the electric system that can be isolated and then energized to deliver electric power from a generation source to enable the startup of one or more other generating units.
Demand-Side Management	The term for all activities or programs undertaken by [a] Load-Serving Entity or its customers to influence the amount or timing of electricity they use.
Element	Any electrical device with terminals that may be connected to other electrical devices such as a generator, transformer, circuit breaker, bus section, or transmission line. An element may be comprised of one or more components
Facility	A set of electrical equipment that operates as a single Bulk Electric System Element (e.g., a line, a generator, a shunt compensator, transformer, etc.)
System	A combination of generation, transmission, and distribution components.
Transmission	An interconnected group of lines and associated equipment for the movement or transfer of electric energy between points of supply and points at which it is transformed for delivery to customers or is delivered to other electric systems.
Transmission Line	A system of structures, wires, insulators and associated hardware that carry electric energy from one point to another in an electric power system. Lines are operated at relatively high voltages varying from 69 kV up to 765 kV, and are capable of transmitting large quantities of electricity over long distances.
Protection System	Protective relays, associated communication systems, voltage and current sensing devices, station batteries and DC control circuitry.
Right-of-Way	A corridor of land on which electric lines may be located. The Transmission Owner may own the land in fee, own an easement, or have certain franchise, prescription, or license rights to construct and maintain lines.

Prior to any revised BES definition becoming effective, its impact on existing standards needs to be examined. In other words, if an existing standard was written based on the existing definition (which included the phrase "as defined by the Regional Reliability Organization"), then moving to a continent-wide bright-line definition may significantly alter the intent or implementation of the standard.

1. BES GENERATION

BES Generation should include:

a. Individual generating units greater than 20 MVA (gross nameplate rating). *All units greater than 20 MVA should be included, regardless of the interconnection voltage, because the impact on reliability of the BES associated with tripping similarly-sized units that are interconnected at different voltages is nearly identical. This is a change from current practice. We also believe that "generating unit" should be defined as "A device, whether spinning or static and whether connected synchronously, asynchronously, or electronically coupled, that produces electrical energy from another source of energy, either directly from the other energy source (such as a combustion turbine from natural gas or light distillate oil, a wind turbine from wind, or a solar*

array from the sun) or through a storage medium (such as pumped storage hydro, a flywheel, compressed air, or battery)."

b. Generating plants with aggregate generation capacity greater than 75 MVA (gross nameplate rating). *All plants greater than 75 MVA should be included, regardless of the interconnection voltage, because the impact on reliability of the BES associated with tripping similarly-sized plants that are interconnected at different voltages is nearly identical. We also believe that "generating plant" should be defined as "one or more generating units that are under the common local operational control of a Generator Operator."*

c. Blackstart Resources. *Blackstart Resources are essential for the restoration of de-energized portions of a System.*

d. Any resource (supply-side or Demand-Side Management) relied on to provide Contingency Reserves to its Balancing Authority. *Contingency Reserves are required by BAL-002-0 – Disturbance Control Performance. Resources that may provide such reserves are essential to ensure control of the BES.*

e. Any resource relied on in the determination of a System Operating Limit (SOL) or an Interconnection Reliability Operating Limit (IROL). *FAC-011-2 - System Operating Limits Methodology for the Operation Horizon requires that Reliability Coordinators have a documented SOL Methodology, including a description of how to identify the subset of SOLs that qualify as IROLs. Resources included in the calculation of an SOL or an IROL should therefore be considered part of the BES since they are used to determine key BES limits that ensure reliable operation.*

f. Any resource that is monitored by Reliability Coordinators (RCs). *IRO-003-2 – Reliability Coordination – Wide-Area View requires RCs to monitor "all Bulk Electric System facilities, which may include sub-transmission information, within its Reliability Coordinator Area and adjacent Reliability Coordinator Areas, as necessary to ensure that, at any time, regardless of prior planned or unplanned events, the Reliability Coordinator is able to determine any potential System Operating Limit and Interconnection Reliability Operating Limit violations within its Reliability Coordinator Area." Any resources monitored by an RC are being monitored to ensure the reliable operation of the BES.*

g. Any resource fully or partially relied on to fulfill a capacity obligation. *Although most capacity resources are likely captured by the other categories above, this additional category ensures that all resources that have capacity obligations are part of the BES.*

h. Elements or Facilities required for the control or operation of resources above, regardless of voltage, and including, but not limited to, various generator transformers (e.g., step-up, auxiliary, start-up), generator controls (including exciters and power system stabilizers), prime mover controls, and generating unit control rooms. *A generating unit cannot operate reliably without properly functioning controls or a power supply to its auxiliary loads.*

We note that the current *Statement of Compliance Registry Criteria (Revision 5.0)* has language (p. 9) that excludes customer-owned/operated generation from registration if it is behind the customer's meter, used to serve the customer's load, has appropriate back-up services to cover service to the load when the customer's generation is outaged, and the "net capacity provided to the bulk power system does not exceed the criteria above" (i.e., 20 MVA for an individual generating unit and 75 MVA for a generating plant.) This language does address generation adequacy for service to the customer's load; however, it does not address the immediate-term impact on reliability (e.g., the stability of the system immediately following the loss of generation). As this exemption is

currently written, a 300 MW behind-the meter generator serving 285 MW customer load could be excluded from the BES. Therefore, we believe that behind-the-meter generation exclusions should not be part of the base BES definition. However, we are not opposed to a reliability-based exemption process that, on a case-by-case basis, would consider exemptions of specific behind-the-meter generation that would otherwise be part of the BES.

2. BES TRANSMISSION

BES Transmission is made up of both alternating current (ac) transmission Facilities and direct current (dc) transmission Facilities. Although the *Statement of Compliance Registry Criteria (Revision 5.0)* does not distinguish between ac and dc, we believe that this distinction is intended, and our framework uses it for clarity.

2.1 AC Transmission Facilities

Ac transmission Facilities should include:

a. Transmission, Transmission Lines (including their associated Right-of-Way), and substation Facilities nominally operated at 100 kV or higher as measured phase-to-phase for a three-phase ac circuit, with the exception that radial facilities meeting the criteria described in section 2.1.1 ("Excluded Radial Transmission Facilities) are not included. Radial transmission facilities that do not meet the criteria described in section 2.1.1 (e.g., BES interconnection Facilities) are included. *We believe that the attributes of excluded radial Facilities make them Facilities that are used in the local distribution of energy. Their exclusion conforms to the Section 215 definition of Bulk-Power System which states that it "does not include facilities used in the local distribution of electric energy."*

b. Transformers, including autotransformers, variable frequency transformers, and phase-shifting transformers, with a high-side voltage 100 kV or higher, provided that transformers used in the local distribution of electric energy are excluded. *The exclusion of transformers used for the local distribution of energy conforms to the Section 215 definition of Bulk-Power System which states that it "does not include facilities used in the local distribution of electric energy."*

c. Transmission, Transmission Lines (including their associated Right-of-Way), substation Facilities, and transformers, not covered by a. or b. above, that form the principal transmission path[20] between BES Generation and BES ac transmission Facilities, including the Cranking Path for Blackstart Resources. *Per the "contiguous" principle described above, the principal transmission path of BES Generation that is not connected to transmission Facilities that are 100 kV or higher is part of the BES.*

d. Transmission, Transmission Lines, and substation Facilities included in the determination of an Interconnection Reliability Operating Limit or a System Operating Limit. *See 1.e above.*

e. Transmission, Transmission Lines, and substation Facilities monitored by Reliability Coordinators. *See 1.f above.*

f. Elements or Facilities used in control or operation of BES ac transmission Facilities listed above, regardless of voltage and including, but not limited to, circuit breakers, in-line switches, fuses, shunt and series compensation (capacitors and reactors), power electronic control devices (e.g., static var compensators (SVCs), static synchronous compensators (STATCOMs)), wave traps, and current and potential transformers. *Ac transmission Facilities cannot operate reliably without properly functioning controls.*

[20] The term "principal transmission path" would need to be defined.

2.1.1 Excluded Radial Transmission Facilities

We believe that it is important to set some guidelines for the exclusion of radial transmission facilities from the BES. As such, any ac transmission Facility composed of Transmission Line(s), substation Facilities, and transformers that is connected to BES ac Transmission Facilities at only one point by automatic interruption devices (e.g., circuit breaker or fuse), and that meets the following criteria, should be considered an "excluded radial transmission Facility."

a. Is not capable of being switched so as to be simultaneously connected to BES ac transmission Facilities at a second point. *This criterion prevents the excluded Facility from carrying loop flow.*

b. Has no connected BES Generation. *If the transmission Facility has any BES generation connected to it, the transmission Facility would be included in the BES per 2.1.c. above.*

c. Connected aggregate non-BES generation, unreduced for any load, does not exceed 75 MVA. *The addition of "aggregate non-BES generation, unreduced for load, exceeding 75 MVA" captures generation that may not be captured by 1.b. above if it is distributed and not at a single generating plant. Electrically, tripping distributed generation on a radial facility has virtually an identical impact to the BES as tripping the same amount of generation aggregated at a single generating plant.*

d. Will not cause the interruption of power flow on BES ac transmission Facilities due to a fault with Normal Clearing on any of the subject transmission Facilities described above. *If tripping a radial Facility impacts BES ac transmission Facilities, there is a direct link between BES reliability and the reliability of the radial Facility, and hence the radial Facility cannot be excluded.*

The automatic interruption device(s) and (i) Protection Systems and (ii) communications and control systems associated with the excluded radial transmission Facility should be included as part of the BES, and its owner and operator should be on the NERC Compliance Registry.

The current registry criteria states "Radial transmission facilities serving only load with one transmission source are generally not included in this definition [of BES]." The language we have provided above more clearly defines what radial means, but does not specify that an excluded radial Transmission Facility only serves load because if a radial Facility met all the criteria above and only served load, it would be excluded. Our proposal does permit some non-BES generation (up to 75 MVA) to be considered as part of an excluded radial facility. We believe this is a reasonable upper limit and would allow some self-generation by end-use customers who are connected to the grid to be excluded from the BES. The registration criteria also includes radial Facilities that are 200 kV or greater that are explicitly covered by the vegetation management standard. We believe the 200 kV or greater inclusion in FAC-003-1 – Transmission Vegetation Management Program is not necessary for the reliable operation of the BES since "radial" has been narrowly defined above. For example, our radial criteria would not exclude as "radial" a hard tap[21] serving load that is part of a three-terminal line, while the present radial exclusion language could include it because the load on the hard tap could be considered as having "one transmission source."

2.2 DC Transmission Facilities

Dc transmission Facilities should include:

a. Transmission, Transmission Lines, and substation Facilities operated at 100 kV dc or higher as measured pole-to-ground for a single dc circuit (i.e., a single pole).

[21] A "hard tap" has no automatic interruption devices at the tap.

b. Equipment that connects ac Transmission Lines and substation Facilities to dc Transmission Lines and substation Facilities, which are operated at 100 kV (ac or dc) and above (e.g., ac/dc converter terminals).

c. Equipment, regardless of its ac or dc voltage level, that connects normally asynchronous ac Transmission, Transmission Lines, or substation Facilities operated at 100 kV or higher (e.g., ac/dc back-to-back converters).

d. Transmission, Transmission Lines (including their associated Right-of-Way), and substation Facilities not covered above, that interconnect BES Generation to BES ac transmission Facilities, including the Cranking Path for Blackstart Resources. *See 2.1.c above.*

e. Transmission, Transmission Lines, and substation Facilities included in the determination of an Interconnection Reliability Operating Limit or a System Operating Limit. *See 2.1.d above.*

f. Transmission, Transmission Lines, and substation Facilities monitored by Reliability Coordinators. *See 2.1.e above.*

g. Elements or Facilities used in the control or operation of the BES dc transmission Facilities listed above, regardless of voltage. *See 2.1.f. above.*

3. BES PROTECTION AND CONTROLS

We believe that BES Protection and Controls should not only include all Protection Systems and control and communication systems that are included in Elements or Facilities for the control and operation of BES Transmission or BES Generation, but also any Protection Systems, controls and communication systems which are used to reliably operate the BES, regardless of voltage. BES Protection and Controls would include, but are not limited to, energy management systems, supervisory control and data acquisition systems, Protection Systems, Special Protection Systems (a.k.a., Remedial Action Schemes), underfrequency load shedding programs, undervoltage load shedding programs, Demand-Side Management programs using control and/or communication systems, and Protection Systems and control and communication systems and facilities operated by or relied on by Balancing Authorities, Transmission Operators, Reliability Coordinators, or Generation Operators. *Protection and control of the BES is paramount for the reliable operation of the BES. Each of the systems, programs, or facilities delineated above is used to ensure reliability. To be sure that no protection and control systems used for reliability were inadvertently excluded, we added language that this third part of the BES definition "should not only include all Protection Systems and control and communication systems that are included in Elements or Facilities for the control and operation of BES Transmission or BES Generation, but also any Protection Systems, controls and communication systems which are used to reliably operate the BES." Any attempts to itemize such systems into an exhaustive list would inevitably leave a key one out.*

4. ADDITIONAL REGIONAL INCLUSIONS AND EXCLUSIONS

Facilities not discussed above could be included or excluded by Regional Entities, depending on whether they are used for the reliable operation of the BES. Such inclusions and exclusions would be based on a process included in a future revision to NERC's *Rules of Procedure*. Such revision would be subject to both NERC and FERC approval.

a. Regional exclusions should not exclude Elements or Facilities covered by a standard. Such exclusions would degrade the level of reliability provided by the standard.

b. FERC Order 672[22] addressed criteria for regional differences in Paragraph 291:

> As a general matter, we will accept the following two types of regional differences, provided they are otherwise just, reasonable, not unduly discriminatory or preferential, and in the public interest, as required under the statute: (1) a regional difference that is more stringent than the continent-wide Reliability Standard, including a regional difference that addresses matters that the continent-wide Reliability Standard does not; and (2) a regional Reliability Standard that is necessitated by a physical difference in the Bulk-Power System.

We agree that these criteria should be the starting point for additional regional inclusions or exclusions.

c. Facilities that are used for the reliable operation of the BES in a particular region and which are not captured in the base definition should be included as part of the BES by that region.

d. Facilities should only be considered for exclusion by a region if they are not used for the reliable operation of the BES, provided that such facilities are incapable of being tapped onto or directly connected to the BES.

e. If excluded Elements or Facilities are to be connected to the BES, they should have automatic interruption devices (e.g., circuit breakers or fuses) connecting them to the BES at their point of connection. Furthermore, this device and (i) Protection Systems and (ii) communications and control systems associated with the excluded Element or Facility should be included as part of the BES, and its owner and operator should be on the NERC Compliance Registry.

5. REGISTRATION AND FUNCTIONAL MODEL IMPACTS

This proposed BES framework would bring conforming changes to NERC's compliance registry criteria; however, this document has not attempted to define those changes. For example, a Load-Serving Entity served by a hard radial tap that it owns (as part of a three-terminal line) would be registered as a Transmission Owner since the hard tap is not excluded from the BES. Likewise, an owner of a 50 MW generating unit interconnected at 69 kV would be registered as a Generation Owner. Once the BES definition is settled, changes in the compliance registry criteria would logically follow.

Functional model changes may also be necessitated by a new BES definition. For example, in the BES Generation section, we have included Demand-Side Management resources, and no functional model entity is currently responsible for such resources within the functional model. Again, functional model changes would need to logically follow a new BES definition.

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[22] http://www.nerc.com/files/final_rule_reliability_Order_672.pdf